

CLAIMS

1. A nozzle comprising:

(a) a nozzle body having an inlet face, an outlet face, and an inlet flow

5 axis passing through the inlet and outlet faces; and

(b) two or more slots extending through the nozzle body from the inlet

face to the outlet face, each slot having a slot axis;

wherein the slot axis of at least one of the slots is not parallel to the inlet flow axis of the nozzle body.

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2. The nozzle of Claim 1 which further comprises a nozzle inlet pipe having a first end and a second end, wherein the first end is attached to and in fluid flow communication with the inlet face of the nozzle body.

15 3. The nozzle of Claim 1 wherein the slot axes of at least two slots are not parallel to each other.

4. The nozzle of Claim 1 wherein at least two of the slots intersect each other.

20 5. The nozzle of Claim 4 having three or more slots wherein one of the slots is intersected by each of the other slots.

6. The nozzle of Claim 5 having four slots wherein a first and a second slot intersect each other and a third and a fourth slot intersect each other.

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7. The nozzle of Claim 1 wherein the ratio of the axial slot length to the slot height is between about 1 and about 20.

8. A nozzle comprising:

- 5                   (a) a nozzle body having an inlet face, an outlet face, and an inlet flow axis passing through the inlet and outlet faces; and
- (b) two or more slots extending through the nozzle body from the inlet face to the outlet face, each slot having a slot axis and a slot center plane, wherein none of the slots intersect other slots and all of the slots are in fluid flow
- 10               communication with a common fluid supply conduit.

9. The nozzle of Claim 8 wherein the center plane of at least one slot intersects the inlet flow axis.

15   10. A nozzle comprising:

- (a) a nozzle body having an inlet face, an outlet face, and an inlet flow axis passing through the inlet and outlet faces; and
- (b) two or more slots extending through the nozzle body from the inlet face to the outlet face, each slot having a slot axis and a slot center plane;
- 20   wherein a first slot of the two or more slots is intersected by each of the other slots and the slot center plane of at least one of the slots intersects the inlet flow axis of the nozzle body.

11. The nozzle of Claim 10 wherein the center plane of the first slot intersects the inlet

25   flow axis at an included angle of between 0 and about 30 degrees.

12. The nozzle of Claim 10 wherein the center plane of any of the other slots intersects the inlet flow axis at an included angle of between 0 and about 30 degrees.

5 13. The nozzle of Claim 10 wherein the center planes of two adjacent other slots intersect at an included angle of between 0 and about 15 degrees.

14. The nozzle of Claim 13 wherein the two adjacent other slots intersect at the inlet face of the nozzle body.

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